Claims

1. A method for determining defined states or modifications in the mucous membrane of the uterus or in the epithelium of other organs, in which in a sample of body liquid and/or a tissue sample and/or cells the concentration of human endometrial chorionic gonadotropin (eβhCG/ehCG) and/or non-trophoblastic hCG (hCG type I, β6, β7) is determined specifically.

2. The method according to claim 1, characterized in that also the concentration of trophoblastic hCG (hCG type II, tβhCG) or total βhCG or total hCG is determined.

3. The method according to claim 1 or 2, characterized in that the determination of concentration of endometrial hCG (eβhCG/ehCG) is carried out with at least one antibody that recognizes specifically endometrial hCG (eβhCG/ehCG) and does not recognize trophoblastic hCG (hCG type II, tβhCG).

4. The method according to claim 3, characterized in that the antibodies recognize specifically a peptide selected from the peptide sequences according to SEQ ID No. 1 or 3 or its partial sequences.

5. The method according to one of the claims 1 to 4, characterized in that the determination of concentration of endometrial hCG and optionally trophoblastic hCG or total βhCG or total hCG is realized in a sample in the form of secretions, perfusion liquid, cells or tissue, wherein they originate from peripheral blood, serum, lochia, menstrual blood, amniotic fluid, urine, saliva, eye chamber fluid, the urogenital tract (in particular uterus, cervix, vagina samples), the gastrointestinal

tract (in particular oral mucous membrane), the respiratory tract or the central nervous system (in particular liquor).

6. The use of a methods according to one of the claims 1 to 5 for determining the receptivity of the mucous membrane of the uterus for a fertilized egg in prospective and retrospective embryo implantation diagnostics.

7. The use of a method according to one of the claims 2 to 5 for diagnosing a pregnancy, an early pregnancy miscarriage, an extrauterine pregnancy, course of a pregnancy, pregnancy dysfunctions, in particular for differentiating between dysfunctions of the endometrium/decidua and a trophoblastic/embryonic dysfunction, for diagnosing an impending miscarriage or an ongoing miscarriage, the beginning of the birthing process, screening of premature birth, for diagnosing lochia or decidua after disturbed pregnancy or for evaluating effectivity of a contraceptive method.

8. The use of a method according to one of the claims 2 to 5 for diagnosing a physiological buildup of epithelium or a beginning dedifferentiation or a beginning carcinogenic degeneration or a carcinoma and/or for diagnosing Aphantom hCG@.

9. The use of a method in which the concentration of total hCG or of its β subunit is determined for diagnosis of the receptivity of the mucous membrane of the uterus for a fertilized egg in a prospective or retrospective embryo implantation diagnostics.

10. A method for determining defined states or modifications in the mucous membrane of the uterus or in the

epithelium of other organs, characterized in that the determination of the concentration of total hCG or of its β subunit is carried out in a sample of menstrual blood.

11. The use of a method according to claim 10 for determining the receptivity of the mucous membrane of the uterus for a fertilized egg in a retrospective embryo implantation diagnostics.

12. An antibody recognizing specifically endometrial hCG (eβhCG/ehCG) and not trophoblastic hCG(hCG type II, tβhCG).

13. The antibody according to claim 12, characterized in that it recognizes specifically a peptide selected from the peptide sequences according to SEQ ID No. 1 or No. 3 or their partial sequences.

14. An antibody recognizing specifically the trophoblastic human chorionic gonadotropin (hCG type II/tβhCG) and not endometrial human chorionic gonadotropin (e βhCG/ehCG).

15. The antibody according to claim 19, characterized in that it recognizes specifically a peptide selected from the peptide sequences according to SEQ ID No. 2 or No. 4 or their partial sequences.

16. A test kit for determining defined states or modifications in the mucous membrane of the uterus or in the epithelium of other organs containing at least one antibody according to one of the claims 12 to 15 as well as further antibodies and standards.

17. Endometrial β subunit of human chorionic gonadotropin

(eβhCG) having an amino acid sequence according to SEQ ID No. 10.

18. Gene sequence β6e coding for the endometrial β subunit of human chorionic gonadotropin (eβhCG) according to SEQ ID No. 7.

19. A peptide selected from the amino acid sequences according to a SEQ ID No. 1, 3, 12, and 14.

20. The use of an antibody according to one of the claims 12 to 15 or a test kit according to claim 16 or of peptides according to claim 19 for determining defined states or changes in the mucous membrane of the uterus or in the epithelium of other organs, in particular for pregnancy diagnosis or for diagnosis of the receptivity of the mucous membrane of the uterus for a fertilized egg into prospective or retrospective embryo implantation diagnostics, for diagnosis of a pregnancy, an early pregnancy loss, an extrauterine pregnancy, course of pregnancy, pregnancy dysfunctions, in particular for differentiating between dysfunctions of the endometrium/decidua from a trophoblastic/embryonic dysfunction, for diagnosis of an impending or ongoing miscarriage, beginning of the birth process, for premature birth screening, for diagnosis of the lochia or decidua after disturbed pregnancy or for evaluation of the effectivity of a contraceptive method, for diagnosis of a physiological buildup of an epithelium or the beginning de-differentiation or a beginning carcinogenic degeneration or a carcinoma and/or for diagnosis of phantom hCG.

21. The use of the endometrial β subunit of human chorionic gonadotrophin (eβhCG) having an amino acid sequence

according to claim 17 or the gene sequence according to claim 18 as a marker for the healthy buildup and function of the endometrium or of the decidua, in particular in pregnancy diagnosis or diagnosis of receptivity of the mucous membrane of the uterus for the fertilized egg, in prospective or retrospective embryo implantation diagnostics, for diagnosis of a pregnancy, an early pregnancy loss, an extrauterine pregnancy, course of a pregnancy, of pregnancy dysfunctions, in particular for differentiating between dysfunction of the endometrium/decidua and a trophoblastic/embryonic dysfunction, for diagnosis of an impending or ongoing miscarriage, beginning of the birth process, for premature birth screening, for diagnosis of the lochia or decidua after disturbed pregnancy or for evaluation of the effectivity of a contraceptive method, for diagnosis of a physiological buildup of an epithelium or the beginning de-differentiation or a beginning carcinogenic degeneration or a carcinoma and/or for diagnosis of phantom hCG.